

SYSTEMS AND METHODS FOR SUB-WAVELENGTH IMAGING
ABSTRACT OF THE DISCLOSURE

Preferred embodiments of the present invention provide methods of forming a
5 photolithographic pattern by patternwise imaging each of two or more different
modalities of light onto a multiphoton-specific photoinitiator material to form a
photolithographic pattern on the surface where each of the patterns of the two or more
different wavelengths of light overlap. In various embodiments, the invention provides a
method of semiconductor fabrication capable of permitting the formation of an imaged
10 feature having a dimension smaller than $\lambda/(2NA)$, where λ is the smallest wavelength of
imaging light, and NA is the numerical aperture of the imaging system.